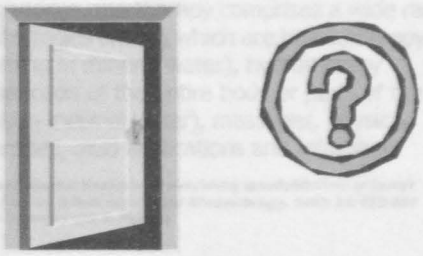
İ.Ü. Kütüphane ve Dok. D. Bşk.
Demirbaş No : M3428
Kayıt No :
Sınıflama No :

Spa Therapy for Chronic Low Back Pain and Lumber Osteoarthritis in Turkey

Prof. Dr. M. Zeki Karagülle

Spa Therapy



Spa

- "Spagere" ; Latin word "to scatter, sprinkle, moisten"
- "Espa" ; Walloon word meaning fountain
- "Spa" ; Belgian town near Liege, where a curative, thermal spring was discovered in 14th century
- Place with thermal baths; "Health resort"
- "Salus Per Aquam"; Health through water

Spa Therapy

- "Bathing in thermal water for therapeutic purposes has several descriptions (for example, taking the waters, balneotherapy, spa therapy, hydrotherapy), which will all be used throughout this paper, and are more or less interchangeable."

A brief history of spa therapy: A van Tubergen, S van der Linden, Ann Rheum Dis 2002;61:273–275

Spa Therapy

- Has frequently been used interchangeably with balneotherapy and hydrotherapy by patients and health care workers alike.

Spa Therapy

- We profoundly disagree with the authors, that "taking the water, balneotherapy, spa therapy, hydrotherapy are more or less interchangeable". We are certain that they are not.

MATTERS ARISING: A brief history of spa therapy
T Bender, P V Balint and G P Balint
***Ann Rheum Dis* 2002;61:949-950**

Spa Therapy

- "Bathing in thermal water for therapeutic purposes has several descriptions (e.g. taking the waters, balneotherapy, spa therapy), which are more or less interchangeable.

Spa and exercise treatment in ankylosing spondylitis: fact or fancy?
Best Practice & Research Clinical Rheumatology, 2002; 16: 653-666
A.van Tubergen and A. Hidding

Spa Therapy

- "Nowadays, spa therapy comprises a wide range of strategies among which are balneotherapy (bathing in mineral water), hydrotherapy (immersion of the entire body or parts of the body in thermal water), massages, physical exercises, mud applications and relaxation"

Spa and exercise treatment in ankylosing spondylitis: fact or fancy?
Best Practice & Research Clinical Rheumatology, 2002; 16: 653-666
A.van Tubergen and A. Hidding

Hydrotherapy, balneotherapy, and spa treatment in pain management

Tamás Bender, Zeki Karagülle, Géza P. Bálint, Christoph Gutenbrunner, Péter V. Bálint and Shaul Sukenik
Original Article

Rheumatology International
Clinical and Experimental Investigations
© Springer-Verlag 2004
10.1007/s00296-004-0487-4

Hydrotherapy, balneotherapy, and spa treatment in pain management

- Confusion persists regarding hydrotherapy and balneotherapy. The former employs simply water, while the latter uses natural thermal mineral water. Spa therapy employs a number of different treatment modalities, including hydrotherapy and balneotherapy, and creates a special therapeutic atmosphere of its own through the change in environment and lifestyle.

Balneotherapy

- "balneum"

Latin word for bath

- "terapium"

Latin word for treatment

Spa Therapy

- The terminology "spa therapy" should be reserved for balneotherapy that is mostly combined with massage, exercise, physical therapy or rehabilitation.

Balneotherapy

- "The therapeutic use of mineral and thermal waters, usually through water immersion of part or all of the body, but also through drinking certain amount of water and inhaling the vaporized or dispersed water"

Hydrotherapy?

- Hydrotherapy at the spas is usually administered in the form of underwater massage, Scottish douche, showers and hydro-kinesitherapy (aquatic exercise in tap water) in the pool.

Alternative approaches to LBP

[Erlich GE 2003]

- Chiropractic "adjustment"
- Osteopathic manipulation
- Yoga
- Acupuncture
- Herbals
- Spa therapy and other terms of moist heat and physical therapy

Spa therapy for LPB

- Spa therapeutic methods (baths, mud applications, exercises, massages and water therapies) are given according to established empiric practice and on the assumption that they benefit patients with LBP

Contribution of Individual Spa Therapies in the Treatment of Chronic Pain

*†Gerhard Strauss-Blasche, Ph.D., *†Cem Ekmekcioglu, M.D., †Gerda Vacariu, M.D., §Herbert Melchart, M.D., ‖Veronika Fialka-Moser, M.D., and *†Wolfgang Marktl, M.D.

*Department of †Physiology and ‖Physical Medicine and Rehabilitation, University of Vienna, Vienna; and §Ludwig Boltzmann Institute for Physiological Balneo-Research and ¶Kurzentrum Bad Tatzmannsdorf, Bad Tatzmannsdorf, Austria

- Mud applications
- Carbon dioxide baths
- Classic massage
- Exercise therapy
- Spinal traction

The Clinical Journal of Pain, Vol. 18, No. 5, 2002

Contribution of Individual Spa Therapies in the Treatment of Chronic Pain

*†Gerhard Strauss-Blasche, Ph.D., *†Cem Ekmekcioglu, M.D., †Gerda Vacariu, M.D., §Herbert Melchart, M.D., ‖Veronika Fialka-Moser, M.D., and *†Wolfgang Marktl, M.D.

*Department of †Physiology and ‖Physical Medicine and Rehabilitation, University of Vienna, Vienna; and §Ludwig Boltzmann Institute for Physiological Balneo-Research and ¶Kurzentrum Bad Tatzmannsdorf, Bad Tatzmannsdorf, Austria

- Hydrotherapy (used in combination with massages, exercise therapy, and spinal traction)
- Electrotherapy (short-wave diathermy, inferential therapy ultrasound)

The Clinical Journal of Pain, Vol. 18, No. 5, 2002

Spa Therapy modalities in Central Europe

- Balneotherapy
- Climatotherapy
- Mud therapy
- Exercise therapy
- Hydrotherapy
- Massage therapy
- Electrotherapy

Use of Spa Therapy To Improve the Quality of Life of Chronic Low Back Pain Patients
Constant, F; Guillemin, F; Collin, JF; Boulangé, M
Med Care. 1998 Sep;36(9):1309-14.

1. A 10-minute bath at 36°C with underwater flow;
2. A local application of mud at 45°C for 15 minutes;
3. A 20-minute massage under flowing water at 36°C.

Spa Therapy modalities in Southern Europe

- Balneotherapy
- Mud therapy
- Massage under flowing water (Vichy Shower)
- Hydrotherapy
  - Showers
  - Underwater high pressure showers (massages)

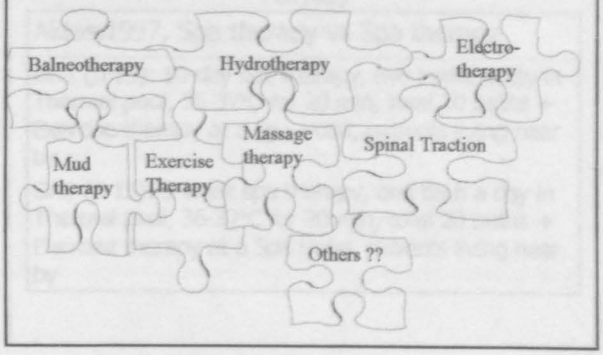
Balneotherapie und Kurorttherapie rheumatischer Erkrankungen in der Türkei: Ein systhematischer Review
M.Z Karagülle. M.Karagülle
Forsch Komplementärmed Klass Naturheilkd 2004;11:33-41

- Balneotherapy
- Exercise therapy
- Patient education (Back school)

Spa Therapy modalities in Turkey

- Balneotherapy
- Mud therapy
- Massage therapy
- Exercise therapy

Complex(ed) Spa therapy



Spa therapy for LPB

- In general, they consisted of a mixed bag of balneotherapeutic and/or peloidotherapeutic, hydrotherapeutic and physiotherapeutic interventions

Studies; Spa therapy for LBP in Turkey

Horoz, 1997 Spa therapy vs conventional therapy
Gr.1 (n 14): 3-week spa therapy, Balneotherapy;thermal water bath at 37-38°C for 20 min, total 20 baths + Patient education (Back school 4 hours), at Spa resort, stay in the spa hotel
Gr.2 (n 8): Conventional therapy + Patient education (Back school 4 hours) at home town

Studies; Spa therapy for LBP in Turkey

Horoz,1997 Spa therapy vs conventional therapy
There were statistically significant improvements in Oswestry Index at the end and after 3 months of spa therapy. In pain score (VAS) after 3 months and in Beck Depression Scale after the spa therapy.
In the control group the only observed improvement was in lumber ROM.

Studies; Spa therapy for Lumber OA in Turkey

Biçki et al, 2002, Spa therapy vs Spa therapy
3-week spa therapy stay at a Spa clinic,
Gr.1 (n 15):, balneotherapy; one bath a day, 36-37°C, 20 min, total 20 baths,
Gr.2 (n 15): Balneotherapy,as above + Exercise therapy
Gr. (n 15): Balneotherapy,as above + Exercise therapy + Physical therapy

Studies; Spa therapy for Lumber OA in Turkey

Biçki et al, 2002, Spa therapy vs Spa therapy
▪Statistically significant improvement in Pain (VAS) and Functional Index (Waddel) was observed in all 3 study groups at the end of 3-week treatment
▪The improvement in Spinal Mobility was superior in balneotherapy + exercise group and balneotherapy + exercise + physical therapy group compared to balneotherapy only group,
▪At 6 month significant improvement in pain (VAS) continued in combined group only

Studies; Spa therapy for LBP in Turkey

Aktas,1997, Spa therapy vs Spa therapy
Gr.1 (n 15): 10-day spa therapy, two baths a day in Thermal pool, 36-37°C for 20 min, total 20 baths + Exercise therapy at a Spa Hotel, patients living near by
Gr.2 (n 15): 3-week spa therapy, one bath a day in Thermal pool, 36-37°C for 20 min, total 20 baths + Exercise therapy at a Spa Hotel, patients living near by

Studies; Spa therapy for LBP in Turkey

Aktas,1997, Spa therapy vs Spa therapy
Significant improvement has been found in pain (VAS) and Functional Index (Oswestry) in both spa therapy groups, this improvement was preserved at 1 month follow up assessment, there was no difference between the study groups.

Spa therapy for low back pain - French RCT's

Authors and Publication	Guillemin et al 1994 (Rheumatology)	Constant et al 1995 (J Rheumatol)	Constant et al 1998 (Med Care)
Spa Therapy	3 weeks, 6 days a week, total 18 times	3 weeks, 6 days a week, total 18 times	3 weeks, 6 days a week, total 18 times
Spa Resort	Bains les Bains	Saint Nectarine	Vittel
Type of Spa Therapy	Ambulatory, patients living within 30 km of Spa Resort	Ambulatory, patients living within 30 km of Spa Resort	Ambulatory, patients living within 30 km of Spa Resort
Patients	Treatment 52 Control 50	Treatment 59 Control 62	Treatment 128 Control 116

Spa therapy for low back pain - French RCT's

Authors and Publication	Guillemin et al 1994 (Rheumatology)	Constant et al 1995 (J Rheumatol)	Constant et al 1998 (Med Care)
Control Treatment	Ambulatory care, drugs	Any therapy	Drug therapy
Spa Treatments	1. 15 min under water high-pressure shower at a water temp. 36°C 2. 3 min shower at varying pressures and varying temperatures from 31° to 36°C	1. 10 min bath at 36°C with underwater flow 2. 20 min local mud application at 45°C 3. 2.5 min high-pressure shower at 36°C with a massage device with regulated pulse flow	1. 10 min bath at 36°C with underwater flow 2. 15 min local mud application at 45°C 3. 20 min massage under flowing water at 36°C (every other day)

Spa therapy for low back pain - French RCT's

Guillemin et al 1994 (Rheumatology)	Constant et al 1995 (J Rheumatol)	Constant et al 1998 (Med Care)
The comparison with baseline measures at 3 weeks and 9 months showed a significant improvement in all clinical variables in the spa therapy group. The consumption of analgesics was also less frequent in the spa group.	Post spa therapy and at 6 months statistically significant improvement in patients' health status in the treatment group was found compared with the control group.	3 weeks and 3 months considered together, patients' health status improved significantly in the treatment group compared with the control group.

Spa therapy for low back pain - French RCT's

Guillemin et al 1994 (Rheumatology)	Constant et al 1995 (J Rheumatol)	Constant et al 1998 (Med Care)
The change in the Waddel disability score did not differ significantly after 9 months between groups.	Furthermore, functional disability and drug consumption significantly decreased over time in the spa therapy group compared with the control group.	Significant improvements were noted in measures of: the physical ($P = 0.011$) and mental ($P < 0.0001$) dimensions of QoL, self-esteem ($P = 0.033$), anxiety ($P = 0.001$), and depression ($P < 0.0001$)

Spa therapy for LBP observational studies

Peter et al, 1993	Strauss-Blasche et al 2002,
3-week spa therapy Lavey-les-Bains, France 111 patients with CLBP In the short term an appreciable relief of pain observed.	3-week spa therapy at Spa Clinic in Bad Tatzmannsdorf, Austria, 153 patients with CLBP 2 to 4 treatments daily: mud packs, carbon dioxide baths, massages, exercise therapies, spinal traction, electrotherapy. Significant improvements in all 4 outcome measures; general pain, back pain, negative mood, and health satisfaction

Spa therapy for LPB

- Review of clinical trials on spa therapy for LBP conducted in Turkey and elsewhere has yielded remarkable short and medium term improvements in pain, functional status, lumber mobility and psychological and general well-being

Spa therapy for LPB

- Regardless of the underlying mechanisms, the breadth of the benefits attributable to spa therapy in the management of LBP are remarkable

Why is spa therapy effective?

A combination of various factors inherited in the spa therapy concept;

- may contribute to the beneficial effects of spa therapy
- may be independent and important contributors to the overall effect of spa treatment

Why is spa therapy effective?

- Balneotherapy, spa water (thermal-mineral water), peloidotherapy, mud and other specific spa techniques
- Other treatment modalities (massage, exercise, traction etc.)

Why is spa therapy effective?

- The temporary change of climatic exposure and social and physical environment
- A change in the lifestyle during the stay at the spa resort

Why is spa therapy effective?

- the natural history of chronic LBP
- regression to the mean
- the nonspecific effects of spa therapy (placebo effect)

Effective components of Spa therapy for LPB

- Balneotherapy
  - Passive immersion in thermal water
  - Immersion in thermal water with
    - under water high-pressure shower or
    - underwater flow or
    - a stream of hot water on effected part or
    - underwater traction

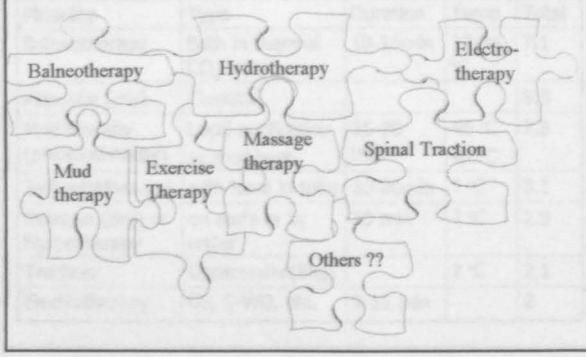
Effective components of Spa therapy for LPB

- Mud application; peloidotherapy
  - Local application on low back
- Exercise therapy
  - Dry
  - Aquatic

Effective components of Spa therapy for LPB

- Massage
  - Classical
  - under or with water
- Hydrotherapy
  - Pressure shower
- Spinal Traction (under water)

Complex(ed) Spa therapy



Spa therapy for LPB

It remains impossible to identify

- the most effective component of a spa therapy package
- and the most effective combination of spa treatments for LPB

Spa for LPB

- Let us look at the results of the efforts to examine the contribution of specific spa therapy interventions to the overall effectiveness of spa therapy for chronic (low-back) pain

Contribution of Individual Spa Therapies in the Treatment of Chronic Pain

- On a short-term basis, mud packs and exercise were found to be associated with a greater improvement in mood
- On a long-term basis, exercise therapy and spinal traction were associated with a greater reduction in back pain

Strauss-Blasche et al 2002,

The best combination of Individual Spa Therapies in the Treatment of Chronic Low Back Pain ?

- Yet, there is no data on the most effective combination of specific spa therapy interventions for chronic (low-back) pain

Let us attempt to prescribe a spa therapy regimen for chronic low-back pain with a evidence based approach rather than empiricism and tradition

A 3-week Spa therapy regimen for LBP Austrian-style

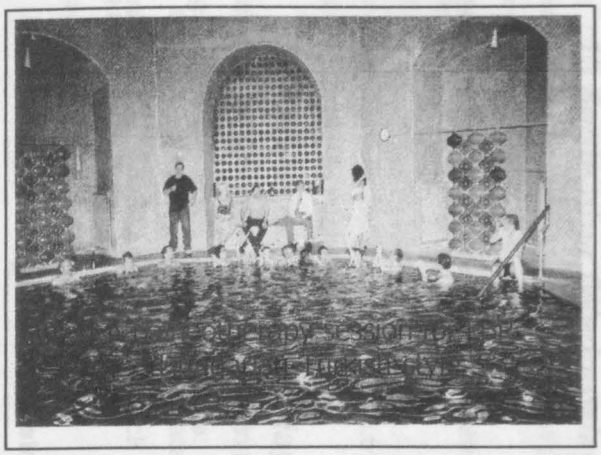
Modality	Type	Duration	Temp.	Total
Balneotherapy	Bath in thermal CO_2 water	10-15min	32-34 °C	7.1
Massage (dry)	Classical			8.8
Mud therapy (peloidotherapy)	Local application or mud bath	15-20 min	46 °C 42 °C	7.5
Jet(wet)Massage	with hose in tube	10-20min	? °C	3.1
Exercise (dry) or Hydrotherapy	on mats or in water	30 min	? °C	2.9
Traction,	Underwater(5kg)		? °C	2.1
Electrotherapy	US, S-WD, etc.	9-15 min		2

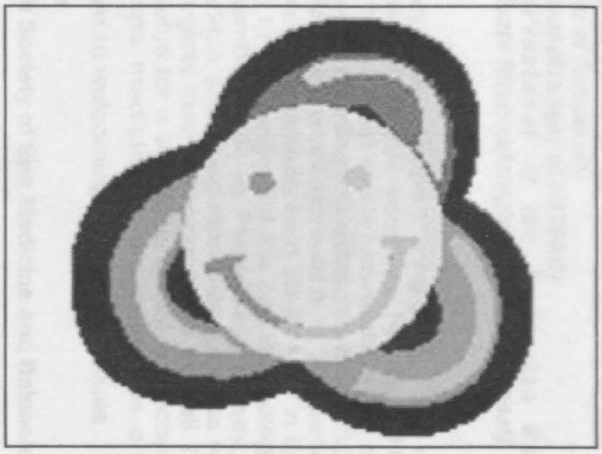
Prescription a 3-week Spa therapy for LBP French-style

Modality	Type	Duration	Tem.	Total
Balneotherapy	Bath in thermal water	10-15 min.	36 °C	18
Mud pack	Local application	15-20 min.	45 °C	18
plus any below				
Hydrotherapy	Pressure shower	3 min.	31-36 °C	18
Hydrotherapy	High Pressure shower	2,5 min.	36 °C	18
Massage	Under flowing water	20 min.	36 °C	9

A 3-week Spa therapy regimen for LBP Turkish-style

Modality	Type	Duration	Tem.	Total
Balneotherapy	Bath in thermal pool	20 min	36-37°C	**20**
Exercise dry	Flexion-extension	15-30 min.	-	**20**
or				
Patient education	Back school	-	-	4 hours





Organising Committee

M. Zeki Karagülle (President of the Turkish Society of Spa Medicine and Balneology)
Arif Dönmez (General Secretary of the Turkish Society of Spa Medicine and Balneology)
Osman Ali kulak (Mayor of Pamukkale)
Kenan Tüfekçi (General Manager of PATERO)
Tamás Bender (President of the Hungarian Balneological Society)
Pál Géher (Postgraduate Rheumatological Chair, Budapest)

Dear Friends,

Turkey and Hungary have a "shared" long history and a strong tradition of the use of spas and thermal mineral waters for health, wellbeing and recreation. A fruitful and friendly relationship exists between the two countries' balneologists. They have had several meetings to establish a scientific collaboration in Spa and Health Resort Medicine and organised the I. Hungarian-Turkish Balneological Workshop which was successfully held 20-24 May in Eger Hungary. I now am pleased very much to announce that the 2nd Balneological Workshop will take place 15-19 September 2004 in Pamukkale Turkey, which is again a co-organization of Turkish and Hungarian balneologists with the participation of prominent balneologists from other countries as well. I hope that our meeting will give us an impetus for a scientific, social and economical development of balneology and spa medicine in our countries and the entire Europe.

I am looking forward to welcoming you in Pamukkale

M. Zeki Karagülle

President of Turkish Society of Spa Medicine and Balneology

Social Programme

15 September (Wednesday)

18.20 Arrival of the Hungarian delegates to Dalaman (Turkish Airlines TK218)

19.30 Bus transfer to Pamukkale

22.00 Accommodation at the Richmond Hotel (Karahayıt - Pamukkale 20290 Denizli - Türkiye.

Tel: +90 258 271 42 94, Fax: +90 258 271 40 78,

Email:richmond.pamukkale.thermal@richmondhotels.com.tr)

22.30-24.00 Welcome Dinner in Richmond Hotel

16 September (Thursday)

09.00 Visit to **Karahayıt:** The place of Red water springs.

09.30 Sightseeing in **Natural Park of Pamukkale**: Fascinating limestone formations, travertines, with natural thermal water.

11.00 Visit of **Hierapolis**: An ancient city dating back to 190 B.C., still partly standing with a Roman Bath

13.00 Lunch at Denizli

14.00 Excursion to archeological site of **Aphrodisias**, Visit of small town **Buldan** where original Turkish Kilims and Sumacs are made by hand.

19.00 Dinner in Pamukkale

Scientific Program

17 September (Friday)

Venue:Richmond Pamukkale Thermal Hotel

9.00-10.00 Welcome messages:

- M. Zeki Karagülle **(Turkey)**
- Tamás Bender **(Hungary)**
- Gazi Şimşek **(Governor of Denizli)**

10.00-11.30 Spa and Health Resort Medicine I
Chairmen: Tamás Bender, János Bereczki, M. Zeki Karagülle

1. **N. Erdoğan (Turkey)**: Pamukkale, a natural spa town from ancient to modern times.
2. **T Bender, F Ballagi, Gy Gyetvai (Hungary)**: Dry Carbonic acid therapy in Hungary
3. **M. Zeki Karagülle (Turkey)**: Spa therapy for chronic low-back pain and lumber osteoarthritis inTurkey
4. **J. Zálešáková (Slovakia), J. Čársky (Slovakia)**: Proposal of quality standards for European spas
5. **P. Géher (Hungary)**: Changements in the Hungarian Health Care due to EU Membership
6. **S. Sukenik (Israel)**: Balneotherapy for Ankylosing spondilitis at the Dead Sea area
7. **A. Dönmez (Turkey)**: Spa Therapy and Balneotherapy for Fibromyalgia in Turkey
8. **L. Halmy, J. R. Bedros, F. Kovács, K. Bogdánfy, T. Bender (Hungary)**: Archimedes's law and obesity

11.30 Coffee break

12.00 -13.30 Clinical Research in Balneology and Aquatic Therapy
Chairmen: Pál Géher, Shaul Sukenik, Arif Dönmez

9. **L. Hodinka (Hungary)**: Outcomes Measures for Balneotherapy-Recommandations
10. **G. Bálint, A. Ádám, I. Ratkó, L. Poór, P. Bálint, I. Tefner, T. Bender (Hungary)**: Double blind, controlled trial with the thermal mineral water of Nagybaracska, in osteoarthritis of the knee.
11. **E. Sziráki (Hungary)**: Special aquaterapeutic methods - their effects on a tetraplegic Heine-Medin patient
12. **M. Karagülle (Turkey)**: Efficacy of spa therapy in severe knee osteoarthritis; a Pilot Study
13. **D.Takinacı, M. Zeki Karagülle (Turkey)**: Comparison of two different spa therapy regimens in the management of chronic low-back pain; single blind randomized controlled trial.
14. **A. Dönmez, M. Zeki Karagülle, S. Özkurt, (Turkey)**. Spa therapy for Fibromyalgie in Gönen; an observational study
15. **A. Dönmez, M. Zeki Karagülle, M.Turan, E. Odabaşı (Turkey)**:The effect of spa therapy on health relatedquality of life in fibromyalgia

13.30 -14.30 Lunch

14.30 – Round table discussion

Spa Medicine and Balneology in Europe; Do we need a Scientific European Society?

P. Géher (Hungary), T. Bender (Hungary), M. Zeki Karagulle (Turkey), A. Dönmez (Turkey), J. Zálešáková (Slovakia), J. Čársky (Slovakia), S. Sukenik (Israel)

16.30- ISMH Executive Committee meeting
(According to separate invitation)

17.30 - Closing Ceremony

19.00 - Farewell dinner

Post meeting Program

18 September (Saturday)

08.00 Transfers from Pamukkale to Izmir Hotel Thermal Princess Balçova
10.30 Arrival in Hotel Thermal Princess Balçova (check in)
13.00 Sightseeing tour in Izmir
15.00 Free program

19 September (Sunday)

10.00 Departure from Hotel to Izmir Adnan Menderes Airport by bus
13.05 Departure from Izmir to Istanbul Atatürk Airport (Turkish Airlines TK 321)
16.00 Departure from Istanbul to Budapest Ferihegy Airport (Turkish Airlines TK 1437)

Sponsors

PATERO
Richmond Pamukkale Thermal
Mayor of Pamukkale
Governer of Denizli

We are thankful for their contribution in organising the workshop

II. Turkish - Hungarian Balneological Workshop

Pamukkale Turkey

16-18 September 2004

ORGANISATION
Turkish Society of Spa Medicine and Balneology
Istanbul University, Istanbul Medical Faculty,
Department of Medical Ecology & Hydroclimatology
PATERO (Partnership of Spa Hotels in Pamukkale)
Municipality of Pamukkale
Hungarian Balneological Society

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